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the Religion of Science, and the Extension  
of the Religious Parliament Idea

FOUNDED BY EDWARD C. HEGELER

MAY, 1929

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VOLUME XLIII      NUMBER 876

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Published monthly by  
THE OPEN COURT PUBLISHING COMPANY  
337 East Chicago Avenue  
Chicago, Illinois

*Subscription rates:* \$2.00 a year; 20c a copy. Remittances may be made by personal checks, drafts, post-office or express money orders, payable to the Open Court Publishing Company, Chicago.

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Address all correspondence to the Open Court Publishing Company, 337 East Chicago Ave., Chicago.

Entered as Second-Class matter March 26, 1897, at the Post Office at Chicago, Illinois, under Act of March 3, 1879.

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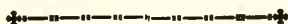
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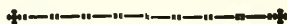


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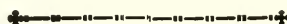
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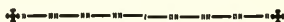
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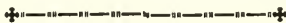
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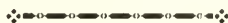
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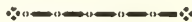
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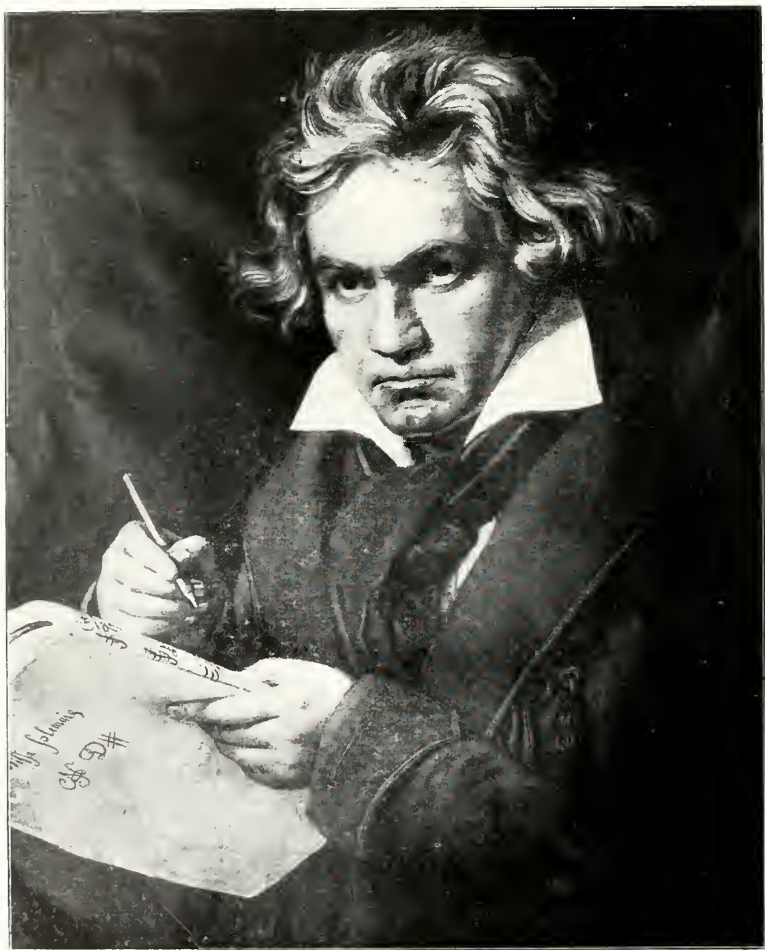


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LUDWIG VAN BEETHOVEN

*Frontispiece to The Open Court.*

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A MONTHLY MAGAZINE

Devoted to the Science of Religion, the Religion of Science, and  
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Volume XLIII (No. 5)      MAY, 1929

Number 876

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## DOES SCIENCE OFFER SOCIETY ETHICAL GUIDANCE?

BY T. SWANN HARDING

A VERY intelligent, vivacious, neo-Protestant girl fell in love with a Roman Catholic youth. In time religion came up for discussion and she was more than usually bewildered when it came to explaining just what ethical standards her own adumbrant faith provided. In further time a Catholic priest was called upon for adjudication and advice. A very little thereafter the young lady delivered herself of something like this—"I believe I shall join the Roman Catholic Church. I am not especially religious; I do not believe in God so terribly; but I have always felt the need of some definite and precise ethical standard for my conduct and the Roman Catholic church very decidedly and positively offers that. I am all for it."

The young lady's predicament is a common one. That she solved it by antiquated means, for all religious means of ethical solution are today philosophically obsolete—the Roman Catholic perhaps to a less extent than the Protestant, being more efficient—is not especially reprehensible. The church is not to be blamed. If anyone is culpable it is the scientist. For the scientist has deliberately, in some cases, and unconsciously, but necessarily, in others, destroyed the foundation of the older religious ethical sanctions yet has often very haughtily refused to cooperate in the work of replacing this tottering structure. He does not lack material with which to build. He lacks only energy, imagination, disposition and a modicum of bravery.

Where the scientist does come out into the open today he comes, usually, as a Presbyterian seeking to deny the antagonism between science and religion, rather than as a scientist offering a new doctrine and a new inspiration. He comes, instead, with a theological

manifesto signed by prominent citizens certifying to the continuance of an antiquated order, or he affirms propositions which he cannot demonstrate scientifically, instead of coming as the prophet of and instructor in a new order he could so readily outline to humanity.

Indeed the onus is upon him. He has procrastinated and equivocated long enough. For Lincoln Steffens (*Plain Talk*, November, 1928) discovered a real situation when he noted that "Ethics are professional; they differ in different occupations; and an ethical practitioner, formed and fitted in one profession, trade, or business, is apt to be disqualified thereby for another occupation morally as well as technically." This should not be so. Yet it actually is so today.

Some people have a very disconcerting way of asking questions, and no wonder. One has recently asked whether there is even room for ethics in modern science, whether indeed the scientific viewpoint—which offers what is essentially a modern system of practical philosophy if applied somewhat more relentlessly than is customary—has a place for ethics in its operations! The answer is a modified affirmative. Actually science itself must be ethical because it must respect such concepts as fact, truth, reasoning, sincerity, honor and impartiality. In so far as ethics is a system of moral principles and in so far as to be moral is to be guided by the highest sense of what is right and proper, true science must be ethical and must base its operations upon ethical foundations.

But one can easily understand that the lay mind is readily misled by scientific practitioners in their every day habits. There is a very striking dichotomy between the ideals of science and the actual practise of scientists. There is even a very striking difference between the highly ethical attitude of the research investigator in his laboratory, confronting a specific problem, and his attitude towards his own fellows in controversy, much less towards the world at large. What slight contact the laic makes with science is necessarily made via certain men who stand out as scientists in the lay mind, for instance physicians, and via certain other rare investigators whose publicity sense somewhat over-shadows or masks the technique of their purely scientific achievements.

This question is important in a so-called scientific age and it merits examination. At the very start certain propositions seem

basic. It is rather generally agreed that society can only achieve more perfect order in so far as enlightened social consciousness is so aroused in ordinary men that it triumphs over the more selfish types of anarchistic individualism our American political philosophy has so long and so mistakenly emphasized. It is also quite apparent that certain groups of men are able to organize themselves into associations which, while possessing the virtues of organized, unified action, yet preserve individualism rather completely and carefully. Thus we find, for instance, such functioning organizations of, let us say,—thieves, politicians, merchants, lawyers, theologians, physicians and pure scientists. It will be agreed, no doubt, that in this list we have a rising crescendo of excellence. It is also apparent that until scientists have achieved the very highest attainable ethics they cannot hope to have a surplus to pass along to the orders below to help them upward.

With these specific groups selected to simplify the problem and with these general assumptions in mind—recognizing that they are assumptions and do not constitute a proved case—let us examine the orders mentioned in a somewhat cursory way. Thereafter let us see what we can honestly conclude as a result of our examination.

It has often been said that there is honor among thieves. We shall here endeavor to separate thieves from politicians, assuming them to be actual or detected, not potential or undetected, criminals. The differentiation does have certain significance however ill defined. Before detection criminals have very definite codes of honor among themselves. Though anti-social in a large sense they are, within their group, usually honorable and ethical. But this order is maintained by condign and swift punishment and it is involuntary: it therefore has little concern for us here, except as this subgroup affects society and as society affects it.

Curiously enough primitive man appears not to have punished what we call crime. (Sutherland—*Criminology*.) We are told that "even if a person killed his father, which was generally regarded as a horrible offense, he was not punished by the other members or even by the tribe; the members of the family felt that since the family had already been weakened by the loss of one member, it would be foolish to weaken it still further by injuring the offender. They looked upon such acts, however, with great

surprise and disgust." You will observe, however, a lack of vindictiveness or desire to teach a lesson or inculcate restraint in others by repeating the homicide with state sanction.

Wissler, writing of American aborigines, stresses the fact that children were controlled by admonition and ridicule and, as Malinowski also observes, were seldom or never chastised. "In fact the whole control of the local group in aboriginal days seems to have been exercised by admonition and mild ridicule instead of by force and punishment." Yet savage societies were not disrupted by powerful stresses; they were stable and efficient in social control. We appear to have forgotten something as we became "civilized." We have forgotten that stable society and a minimum of crime spring from spontaneous self-discipline which, in turn, arises from a social *esprit de corps* we very largely lack in America today.

In a characteristically delightful essay Albert Jay Nock once insisted (In *The American Mercury*) that an improvement in manners could alone effect the moral reforms we so naively hope to effect by restrictive legislation. This spontaneous, self-regulating mechanism is the one the scientist uses in his laboratory (not necessarily towards his wife) and it can build up our social *esprit de corps* to the point where anti-social acts would be inhibited by the fact that individuals could appreciate the disastrous consequences of such acts without being under duress. In short, when taxicab drivers are heard profanely admonishing their more impetuous colleagues to observe the traffic lights though no policeman is in sight it becomes obvious that almost any human can profit by scientific ethics if he knows what it is.

The scientific attitude will alone produce the social excellencies impotent reformers merely preach. Preaching is useless; punishment is irrational, non-deterrant, profoundly unscientific and manifestly ineffective. The only scientific attitude to apply to criminals is that applied today to the insane and to young but mentally normal delinquents in our more advanced juvenile courts. This consists merely in an impartial, exhaustive study of the social causes for the individual's mal-adjustment to society (which is all that crime is) and an effort to produce conditions under which such mal-adjustment no longer occurs. This procedure is so simple and rational as to be almost startling, yet we habitually follow doctrinal



and emotional procedures which are as anachronistic as they are futile.

Of course there are types which simply cannot adjust to society as it is. Considering our social chaos they may be very sane types indeed. They need segregation for life under intelligent supervision, unless they learn the technique of adjustment with passing years. By that we mean that they must learn so to control what is usually an emotional instability which renders them too anti-social to be abroad in our society as at present constituted. That society is imperfect enough, it is true. Therefore a "crime" is not an absolute evil; indeed science knows no absolute evil save dishonesty. A crime is simply the failure of an individual cell to adjust harmoniously for life as a unit in our present social organism. What was once crime—printing a book, believing in the circulation of the blood, driving with reins, having gold in the house, selling coins to foreigners—is no longer crime and anti-social acts of today—indifference to quarantine, sanitary, factory, traffic or "prohibition" regulations—was not crime in past years. But to live successfully in this society individuals must learn mental and emotional self-discipline. Therefore we maintain young criminals in close association with experts under highly unnatural conditions and consider them lost souls because they do not return to society models of ethical perfection.

A study of *American Prisons and Reformatory Institutions: A Report* by M. Liepmann, Professor of Criminology, University of Hamburg, would illustrate what scientific prison control can do with criminals. The New Castle County Workhouse at Wilmington is a case in point. Here the principle of self-government for prisoners has been realized to a greater extent than anywhere else in the world and as a result the inmate leaves the prison ready for life outside. Three guards, two by day and one at night, control the entire 400-500 prisoners and the maintenance of order is entirely in the control of the inmates. They live peaceably in barracks, do the work, are paid for it, indulge in all sorts of social and other activities, do not attempt to escape, collaborate with the officials in their own regeneration and often return to the institution for friendly visits after leaving it. Delaware has only this one penal institution and it has made a citizen factory of it.

We have dealt rather exhaustively with this lowest class of so-



ciety but can handle the intermediate orders more briefly, concentrating again on the scientists, presumed to inhabit the top layer. Making the very slight transition from thieves to politicians there is little new to say. We of course live in a plutocracy. Santayana's ideal "international community with universal free trade, extreme division of labor, and no unproductive consumption" is not yet. As Oppenheimer has it concisely in *The State*—"In principle, there are now, as before, only two classes to be distinguished: one a ruling class, which acquires more of the total product of the labor of the people—the economic means—than it has contributed, and a subject class, which obtains less of the resultant wealth than it has contributed." The research scientist, be it noted, still serves in the subject class today. This is the class of which J. A. Hobson writes—"It is not so much that these people are robbed of their property by their superiors in economic strength, but rather that they are prevented from producing property which they can have no security of holding for their own uses." Brooks Adams goes further and remarks flatly—"In the United States capital has long owned the leading universities by right of purchase, as it has owned the highways; the currency, and the press, and capital has used the universities, in a general way, to develop capitalistic ideas."

When you consider a scientific or functional society it is at once evident that the politician is an anachronism. R. H. Tawney thus defines such a society—"A society which aimed at making the acquisition of wealth contingent upon the discharge of social obligations, which sought to proportion remuneration to service and denied it to those by whom no service was performed, which inquired first not what men possess but what they can make or create or achieve, might be called a Functional Society, because in such a society the main subject of social emphasis would be the performance of social functions."

Since plutocracy depends upon the politician of today so to mitigate the severity of the plutocratic whiplash that the people may think they rule themselves, politicians can have no ethics worth consideration. The financial powers regard a politician as efficient when he is just sufficiently clever to press their advantage as far as is humanly possible without ever reaching what economists call the "incentive limit" at which point a populace loses patience, sees the light and mutters in revolt. In a rich country this job is rela-

tively easy and even a poor politician can become a distinguished senator while a man of brains may sometimes apply his intelligence to the problems of the people quite liberally before he is called to task by his masters. The dubious compromises with the "incentive limit" are interpreted to the masses as fatherly concern for their welfare, and the system easily flourishes in a country richly endowed with natural wealth—so easily that the overseers can afford to be generous in small things and often drop rather large crumbs from their tables. Howe's *Confessions of a Reformer* will portray the politician in this aspect to any who wish to pursue the subject.

It is apparent then, that we can expect from the politicians only the devious ethics of sychophantic buffers and pliable tools and the intelligence of a Bryan (as Pitkin portrays it in *Twilight of the American Mind*) or a Roosevelt, (as his friend, O. K. Davis, so innocently gives it away in *Released for Publication*. That is what we get. We can expect nothing more until society is reorganized on a scientific basis. It remains today antiquated in organization and approaches chaos merely because machine civilization has outrun our intellectual ability to solve social problems by at least a century.

We turn to merchants. Certain commercial organizations have been sufficiently astute to discover the economic value of professional attitudes and higher standards of ethics. But the attitude is still rare in business and industry. Yet, as Laski says (*Grammar of Politics*)—"That element of service is integral to the idea of a profession; it is not yet integral to the idea of business enterprise. We do not hold a boot-manufacturer to the use of such qualities of leather as will make good boots. We do not inquire if a clothier has used shoddy material in the suits he sells." Yet we do exact certain standards of competence in doctors, in lawyers, in dentists, and we even have barber's colleges and schools of automobile mechanics and radio technicians. But business must be brought voluntarily to adopt this professional attitude in the end, for nothing permanent can be accomplished by legislative demands.

Of course certain business houses do sporadically develop high morale. Certain department stores are highly ethical in their dealings but either because they thought it would pay in the beginning or found it did pay in the end. All business and all industry can only be regulated and standardized by professionalism. This is not

an impossible ideal provided the ethics are somewhere being developed right now. Merchants and manufacturers have often shown a surprising disposition to cooperate with rather than to rebel against partially scientific regulatory demands made upon them by the government in such things as pure food laws. Indeed they often come voluntarily to see whether a projected product will conform to regulations, but usually profit and not service naturally calls the pace. This is natural, at the present stage of ethical development.

In a free market relative economic scarcity tends to determine prices, not quality or anything else. It also governs the type and amount of production and goods showing the largest margin between the cost of production and selling price will obviously predominate in such a market. They will be produced regardless of their inherent value and of crying need of less "profitable" goods. This system naturally fails to evolve the most desirable scheme of production because money demand is never synonymous with real need so long as there are rich consumers competing with the poor and demands can be "created" by advertising. For money cost differs altogether from social cost and luxury cars may be built while bread is scarce. Finally market equilibrium breaks down, crises and maladjustments follow, yet these breaks, as Maurice Dobbs says, are due to specific conditions in capitalistic society and not to the character of market exchange *per se*. However, it is apparent, that no high ethics can even be expected from business and industry under such conditions.

We come to lawyers about whom scarcely more needs to be done than to recommend Arthur Train's *On the Trail of the Bad Men* where the situation of this profession in our present society is tellingly portrayed. We have no right to expect high social ethics here. While in police departments, reformatories, penitentiaries, homes for the weak minded and schools for incorrigibles—to which lawyers send the anti-social elements—do at times make successful attempts to develop an ethical morale which is self-disciplinary, the very nature of the lawyer's business prevents him from going very far in this direction professionally.

He also is an anachronism. Not only will lawyers be practically eliminated from a scientific functional society, it is an actual fact by their own admission that they could be cut to one-third in

number if the present legal business of this country were transacted in a sensible, reasonable, logical manner. But the source of their income leads them to protest such rationalization. They have gone so far that they will disbar a colleague convicted of crime, though they still constantly refuse to disbar one known to be just as guilty so long as he has escaped conviction. This is what we should expect.

In the lawyer we have really come upon another incarnation of the politician because he is the equivocal servant of an antiquated society which seeks to perpetuate its obsolete self for the benefit of itself. It never questions its own value to itself. What or who would? The lawyer does not serve scientifically. He serves empirically and often, at the behest of more powerful forces, he acts to belabor or to impede scientific research and the advance of knowledge itself. An examination of government reports will constantly make it apparent how the lawyer-politician type continually interferes with legitimate scientific achievement. He defers reforestation by opposing national forests; he impedes the construction of public bridges and holds out for high-priced, high-tolled private structures on public highways; he finds a thousand and one things more advantageous than a soil survey which is intrinsically more valuable than two-thirds of the things a lawyer suggests; he lays a restraining hand upon the publication of the results of laboratory investigation wherein they might injure business and advertising though they would enlighten the people who paid for the work enormously. So long as this is true legal societies can be no more than relatively ethical and it is vain to expect more of them or to reprehend them for being what they must be.

When we come to the theologians we again face the same problem of an antiquated profession resolutely facing the past in a society which moves inevitably towards more fundamental scientific organization. So true is this that when Pitkins (*Twilight of the American Mind*) declares there is no work today for a single first-class intellect in this entire profession, and liberally quotes a minister's confession of his normal day's work from *Harpers* in 1928 to support his contention, we are almost compelled to believe him. Theologians are already anachronistic. This is no particular discredit to them. There is no cause for recrimination. Many estimable and sincere men in all ages have conscientiously faced the

past and refused to embrace the present or peer into the future. Blinded men, no matter how intelligent or sincere, walk in circles.

But theology represents a mental attitude which sought to solve practical problems by inspirational methods. This is the confusion of values which might induce rural farmers to pray to God for deliverance from an insect scourge rather than to appeal to the State Department or the U. S. Bureau of Entomology. Such confusion of values is basically unethical. The practical problems of society are amenable to scientific solution only, yet Detroit ministers and believers prayed in their churches for the unemployed in 1927! Inspirational methods are out of date. We know better if we can but bring ourselves to apply our knowledge. Religion, in so far as it has *raison d'être*, has it as pure mysticism—personal absorption into the Absolute Ego. It has no documentary or socially functional value. Attempts to make it work for its living must end abortively. Hence associations of clergymen can only be expected to argue about inconsequential doctrinal quibbles or to act like bad politicians—for they lack cleverness and political intuition in dealing with social problems. Hence we can expect little ethical enlightenment in this sector.

Experience in the scientific professions, however,—which are obligated to the very highest ethical standards—also indicates that we are far from daring to place a general reliance upon *esprit de corps* as an efficient social self-discipline. Not only are individuals in these professions often devious personally but in association with each other they are too frequently so corrupted by the low values of an acquisitive society that they forget scientific standards in their collective deportment.

The attitude of the medical profession may easily be summed up. Dealing as it does with science it has dawned upon individual physicians that ethical standards are imperative, that certain things must be prohibited or discountenanced even though such practices may be legal. So it is that some physicians exact from themselves almost as high a standard as the oath of Hippocrates framed thousands of years ago. Thus fee splitting is no more reprehensible in the eye of the law than is taking a commission on a bond deal or an insurance policy or a profit on a funeral. When a man takes his friend to a broker or real estate dealer and a sale results, he expects and will gladly take from the broker a split or commission



which his friend really paid. He feels no depravity. But physicians have observed that it makes for poor or unnecessary surgery when a practitioner can exact a split of the surgeon's fee on every operation he persuades his patients to have. Fee splitting occurs widely—as the brave editor of the *Medical Journal and Record* displayed in an open forum for doctors he conducted in his pages in 1928, but the medical association officially ignores this and has little to say about fees.

Why? Because in such an organization—which is actually and of necessity rather a trade guild than a scientific society—ethical easily becomes synonymous with expedient or “in a prescribed manner.” This is so in medical advertising which is not based, even in the society's own pet journal, upon the quality of the product, but upon the fact that it is restricting its advertising exclusively to physicians. Actually many of the therapeutic agents advertised are perfectly impotent and valueless. While the association leads the physician to believe that all advertising in his journal represents therapeutic agents of established scientific merit, this is not so at all, to the great detriment of healing. And of course the medical association cannot possibly gain anything financially from the advertisement and sale to laymen of a remedy, no matter how good and specific that remedy is! Such procedure may be “ethical” in a certain trade sense, but it is not ethical in the dictionary sense of the word.

Again you will find that the medical association will list as a fellow any physician who pays his dues, and will star those who say they are specialists. Yet intimate conversation with any physician friend will disclose that they, if competent themselves, are rushed to death by reason of the mistakes and incompetence of other specialists or fellows of the association. But can they openly advise people who are and who are not really good physicians? They cannot. That is grossly unethical and would result in their censure. Indeed the association itself rigidly refuses as a matter of policy to point out good physicians when appealed to to do so because that would be “unethical.”

The fact that second, third and fourth rate men must be admitted to the profession as competent, all around physicians, as it is at present organized explains such breaches of ethics and the professional antipathy towards science. Of course, if scientifically

organized, a few first rate minds would direct the medical service of each community and would have organized under them tonsil mechanics and tongue lookers who could do a specific task well but are lost when it comes to general diagnosis. At present, however, when ex-presidents of the American Medical Association and the present Editor of its Journal proclaim that medicine is an art, and not a science and seek to make us believe that every fifth rate practitioner is a noble intellect, antipathy to science is natural.

For science weeds out incompetence and strengthens ethics in so far. Quite naturally Harry H. Moore's well documented and wise study of medical disorganization in this country—*American Medicine and the People's Health*—was damned by the ordained society reviewer with very faint praise and its appendix—*Is Medicine Usually Practised Scientifically?* was denounced as "an unbalanced, irrational assault on modern medical practice that should never have been published anywhere. Its inclusion in the book is perhaps another indictment of Mr. Moore's judgment." The article was by a physiological chemist (the present writer) and begged for more science in medicine. Yet, of Mr. Moore's masses of incontrovertible facts and statistics the medical journal said "Even the selection of these items has been apparently planned with a view to casting great discredit on the practice of medicine as it exists today!"

Discredit needs to be cast and can be, but Mr. Moore was eminently fair and scientific in his procedure. But when you mean by "ethical" what is scientifically good, true and useful, you naturally come into violent conflict with a professional society in so far as it resembles a trade guild. The article by M. L. Harris, M. D., in the Nov. 26, 1927, *Journal of the American Medical Association* and entitled "Medical Economics" will prove to those who wish to investigate that trade guild here predominates over science. Medicine as at present organized does not dare go over to science, which would demand complete reorganization on a scientific basis and a total revision of ethics. Such reorganization, however, will almost necessarily demand the control of an aroused and alert social consciousness for reasons given by this paragraph from Graham Wallas' *Art of Thought*.



"But the whole history of professional organization since the 'guild' system of the late Middle Ages shows that if a monopoly of service is given to the persons on the register of any profession, and the right to admit to and remove from that register is given to a body consisting of representatives elected by the profession, the right of registration will be primarily used to secure the interests of the existing members of the profession, as producers, against the rest of the community, then living or still to be born, as consumers. In drawing up, for instance, conditions of admission, the desire to raise salaries by restricting members will always prove more influential with the voting majority than the desire, which will be constantly proclaimed and often sincerely felt, to increase professional efficiency. And the discipline enforced by the right to remove names from the register will, as years go on, aim mainly at the protection of members of the profession from such a competition among themselves or from outsiders as shall increase the severity of the effort needed to secure a livelihood in the profession. The terms 'professional ethics' and 'professional reasons' have, indeed, acquired in the legally self-regulating professions, and in the voluntary organizations which in fact control many legally unregulated professions, a peculiar and unmistakable."

A careful and thoughtful perusal of this paragraph will explain whatever else we need to know about the present ethics of the medical association, its attitude towards science and towards quack interlopers as well as towards those who would reorganize it to function scientifically in an alertly self-conscious society. We may pass on then to the rarified realm of scientists themselves.

For we must take the case to this court of last resort before we complete our study. The experimental scientist is dedicated to truth, to facts and to high standards of honor: it is his duty to be unemotional, impersonal, impartial and just, in so far as this is humanly possible, and he normally is in his attitude toward his own experimental results. But it is just as true that, in a majority of cases, he is as unbalanced, as prejudiced, as emotional and as unfair as the next man in his attitude towards the work of his rivals, in his dealings with other scientists and in his attitude towards life outside the laboratory.

Twenty years personal experience in the inner recesses of this profession leads the writer to say that more anecdotal evidences of scientific jealousies, cliques, devious ethical procedures and de-

liberate over or under emphasis could be recorded here than he cares or intends to relate. There is this for guidance—the attitude of the intelligent and sincere investigator towards observations and experiments he performs to formulate a hypothesis. Then he is at his best. His hypothesis formed he tends almost inevitably to make it a doctrine and, in spite of himself, to view inimical facts with a jaundiced eye. But, what is far worse, he too frequently lends himself to petty emotional attitudes and predominantly doffs his scientific attitude with his laboratory coat when he goes out into the world. He has, in the scientific method, the thing with which to rebuild the world. He needs first to refashion himself in accordance with its specifications and then to take the viewpoint boldly out into the world of men.

“Scientific method,” writes Karl Pearson (*Grammar of Science*) “consists in the careful and often laborious classification of facts, in the comparison of their relationships and sequences, and finally in the discovery by aid of the disciplined imagination of a brief statement or formula, which in a few words resumes a wide range of facts.” This requires tolerance, objectification, suspended judgment, *sui compose*, and rigid impartiality, besides honor and humor. It in short demands the very highest ethical standard and one which should be applied first to scientific societies and then given to mankind at large for guidance.

What is done? Consider this bit of advertising which appeared in the “News Edition” of *Industrial and Engineering Chemistry*, organ of the American Chemical Society, Dec. 10, 1927. Employers were first informed that all good modern chemists were members of the society, which is of course untrue, because all chemists who were interested in their profession and were what they ought to be, joined—which is also untrue. The employer was then asked this: “Are your chemists among the number? We shall be glad to inform you. Membership keeps them in touch with the profession and its development. This insures their value to you.”

This is patently the sort of advertisement we should reasonably expect from some trade union in the lower intellectual ranks. A more grossly unethical and unscientific exhibit could scarcely be produced. As a matter of fact membership in the American Chemical Society merely indicates that a man has some sort of connection with chemistry in some tenuous or real way and that he is

disposed to pay his dues. It argues nothing whatever as to his competence. Yet the employer, who may believe this, is subtly led to infer that all good chemists belong to the society and that those who do not are incompetent,—which is devious, unethical and indecent in implication. Finally he is offered gratuitous private sleuthing to determine the status of his men in this matter. Truly the organization is after members by hook or crook and is willing to insult scientific ethical standards to secure them.

Consider also the following announcement made by the same presumably "scientific" body before the spring meeting of the American Chemist's Union in 1928. Remembering that a truly scientific body is dedicated to the pursuit of truth and to its widest possible dissemination to all who will hear and learn, consider this announcement to prospective guests of the body at its trade conclave:

"The council has voted that the policy of the Society regarding attendance and participation in its general, divisional, and regional meetings shall be as follows:

(a) Attendance at meetings is limited to registered individuals.

(b) All individuals in registering shall state whether or not they are members of the Society, and if not, whether they are chemists.

(c) American chemists non-members of the Society shall assist in the support of the facilities which they enjoy by paying a higher registration fee than members and being furnished with a special non-member badge to differentiate them from members of the Society and from foreign and non-chemist guests.

(d) Papers by American chemists not members of the Society shall not appear on its programs unless they are joint papers with Society members."

This is gross. It is in part due to our present social and economic system that a scientific body so far forgets itself as to brand non-member guests and forbid them to present papers, no matter how excellent. But devotion to the ideals and ethics of science should enable a body of men even to overcome the incubus of an acquisitive society. It can and does do so. While you cannot expect high ethics in the American Chemical Society as evidenced by the facts given you do find them in other societies.

"The Society for Experimental Biology and Medicine" is ready and willing to hear papers from non-members. The writer attests this from personal experience. The "American Society of Biological Chemists" welcomes visitors and is totally uncommercialized; the same holds for the "American Physiological Society" and for other bodies which could readily be named did space permit. It is still possible for a group of scientists to organize in pursuit of truth, to require only intellectual worth as prerequisite to membership and to avoid cliques, emotions and commercial methods. They can and do then make a serious, totally disinterested effort to achieve high ethical standards, and their professional standing is likewise high and marked by an *esprit de corps* which evokes irreproachable conduct spontaneously. That is what can be and is done.

Or again, take the action of twenty-three men eminent in the field of public health when they thought the Mayor of Chicago had dismissed a competent and excellent Health Commissioner, Dr. Herman N. Bundesen, in order to appoint his untrained, personal physician to the important office. They published a statement flaying this "sacrifice of the lives of the citizens of Chicago to political exploitation and personal whims" and said "The action of the Mayor of Chicago strikes a blow at the most fundamental principles of good government. It should meet with prompt and vigorous rebuke from all people of Chicago who care for the reputation of their city and it should stimulate citizens everywhere to see that city charters are amended so as to make such interference with good health administration impossible in their own communities." This shows how the impact of true scientific standards may be brought to bear upon social problems.

Disparagement of societies *qua* societies is not intended in this presentation. Let that be insisted. All societies have their *raison d'être*. Trade unions are useful, respectable, above criticism—but just so long as they claim to be trade unions and do not seek to disguise themselves as scientific organizations. Higher ethical standards do now prevail in those societies which are most scientific and least commercialized. Thus trade union groups and the chemical society will freely permit conduct which would revolt better professional groups; commercialized professional groups, in turn,

permit conduct revolting to organizations made up of pure scientists and conducted scientifically.

Objection will certainly be made that so many evils exist in the ordinary spheres of life that we should refrain from all adverse criticism of such comparatively excellent groups as chemists and physicians. The objection is not valid. People in general cannot be expected to improve in morale, attain social consciousness and self-disciplined conduct unless and until the most intelligent and advanced sub-groups earnestly seek to improve their own status as much as possible. It is freely granted that we have far to go before we can professionalize commerce, industry and business and criticism comes easy there. But the fact remains that those who engage in these lines of activity are not, on the average, as highly intelligent as those who engage in medicine and science. Therefore, while they can be expected to improve themselves at their own status, the obligation rests just as heavily upon the upper orders to improve themselves at theirs.

"That is really the only way to conquer the crime wave, which is such an annoyance just now. Sutherland in *Criminology* remarks that "Public opinion in pre-literate society made it practically impossible to commit crime. . . (but) . . . public opinion in present society not only puts no such impassable barriers around the individual, but gives him glorified examples, makes him believe that crime is customary, breaks down the legal influences. It is probable that the principle reason for the differences in frequencies of crime in the United States and Canada or England is this public opinion." The ethics of science percolating through our entire society would produce and formulate a public opinion which would make crime as impossible as deliberate falsification in the presentation of scientific results to a scientific body is today in the United States.

Besides, the girl we mentioned in the first paragraph has a right to guidance. She has a right to expect science to formulate a system of practical ethics, for science has the method and the knowledge and is gaining power daily. But so far it lacks the courage and the disposition to undertake this work or even thoroughly to clean its own house. What can we expect of the masses so long as science itself holds back? Profound students of social conditions now see clearly that better morals can only evolve by

the evocation in individuals of such voluntary standards of conduct that satisfactory group life becomes possible. This cannot be accomplished by compulsion, punishment or retributive "justice." It can only be accomplished by the same sort of definitely standardized and impelling public opinion which sees to it that we do not eat with our knives or fight duels or befoul the public streets and this can only occur in so far as ethical standards seep downward from higher up.

Then there must be high ethics up above. Higher sub-groups must be non-commercialized, must place service and social duty first, must formulate ethical doctrines for general use. There, at the apex of society, there must be a conscious, deliberate and very sincere effort to attain the highest possible standards of group conduct, both with reference to the sub-group (or profession) and society as a whole. If low standards rule above, society as a whole has little to hope for. Our case therefore rests upon the willingness of our best groups to accept adverse criticism intelligently, to profit thereby, to live on a high ethical plane and to formulate ethical doctrines for mass application.